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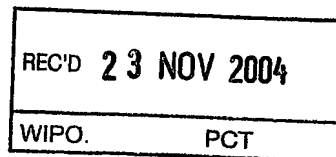
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Patentanmeldung Nr. Patent application No. Demande de brevet n°

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Anmelder/Applicant(s)/Demandeur(s):

BP Lavéra SNC
Parc Saint-Christophe,
Bâtiment Newton 1,
10 avenue de l'Entreprise
95866 Cergy Pontoise Cedex
FRANCE

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Process for the (co-)polymerisation of ethylene in the gas phase

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Case 10059/B443(1)

**PROCESS FOR THE (CO-)POLYMERISATION OF ETHYLENE IN THE
GAS PHASE**

The present invention relates to a process for improving the start up of polymerization or copolymerization of ethylene in a gas phase reactor, preferably a fluidised bed gas phase reactor.

- 5 Processes for the (co)-polymerisation of olefins in the gas phase are well known in the art. Such processes can be conducted for example by introducing the gaseous monomer and comonomer into a stirred and/or gas fluidised bed comprising polyolefin and a catalyst for the polymerisation.
- 10 In the gas fluidised bed polymerisation of olefins, the polymerisation is conducted in a fluidised bed reactor wherein a bed of polymer particles is maintained in a fluidised state by means of an ascending gas stream comprising the gaseous reaction monomer. The start-up of such a polymerisation generally employs a bed of polymer particles similar to the polymer, which it is desired to manufacture.
- 15 During the course of polymerisation, fresh polymer is generated by the catalytic polymerisation of the monomer, and polymer product is withdrawn to maintain the bed at more or less constant volume. An industrially favoured process employs a fluidisation grid to distribute the fluidising gas to the bed, and to act as a support for the bed when the supply of gas is cut off. The polymer produced is
- 20 generally withdrawn from the reactor via a discharge conduit arranged in the

lower portion of the reactor, near the fluidisation grid. The fluidised bed consists in a bed of growing polymer particles. This bed is maintained in a fluidised condition by the continuous upward flow from the base of the reactor of a fluidising gas.

5

The polymerisation of olefins is an exothermic reaction and it is therefore necessary to provide means to cool the bed to remove the heat of polymerisation. In the absence of such cooling the bed would increase in temperature and, for example, the catalyst becomes inactive or the bed commences to fuse. In the fluidised bed polymerisation of olefins, the preferred method for removing the heat of polymerisation is by supplying to the polymerisation reactor a gas, the fluidising gas, which is at a temperature lower than the desired polymerisation temperature, passing the gas through the fluidised bed to conduct away the heat of polymerisation, removing the gas from the reactor and cooling it by passage through an external heat exchanger, and recycling it to the bed. The temperature of the recycle gas can be adjusted in the heat exchanger to maintain the fluidised bed at the desired polymerisation temperature. In this method of polymerising alpha olefins, the recycle gas generally comprises the monomer and comonomer olefins, optionally together with, for example, an inert diluent gas such as nitrogen or a gaseous chain transfer agent such as hydrogen. Thus, the recycle gas serves to supply the monomer to the bed, to fluidise the bed, and to maintain the bed at the desired temperature. Monomers consumed by the polymerisation reaction are normally replaced by adding make up gas or liquid to the polymerisation zone or reaction loop.

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It has now been found an improved start-up operation wherein the polymerization or copolymerisation reaction starts immediately after the alpha-olefins have been brought into contact with the catalyst system and a charge powder, without the risk of formation of agglomerates or fine particles, the polyolefins produced during this period of start up having constant properties and having immediately the desired quality.

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The object of the present invention is therefore a process for the polymerisation or copolymerisation in the gas phase of ethylene by bringing the said ethylene into contact, under polymerization or copolymerisation conditions in a reactor in which the start-up bed is fluidised and/or agitated with mechanical stirring, with a catalyst system, which process comprises a pre start-up operation characterized in that, prior to the introduction of the catalytic system in the reactor, it comprises the following steps

1. determining the density d and melt index MI of the polyethylene powder to be produced at start-up,
2. heating the start-up bed by controlling the temperature inside the reactor such that
 - a. the temperature is maintained at least 0.5°C below the sintering temperature of the start-up bed, and
 - b. the temperature is maintained at a value equal or higher than the one corresponding to a RTSE value of 4.4 for the d and MI values of the polyethylene powder to be produced.

It is also an object of the present invention to provide with a continuous gas fluidized bed process for the polymerization of ethylene monomer and one or more optional alpha-olefins, in a fluidized bed reactor by continuously recycling a gaseous stream comprising at least some of the ethylene through the fluidized bed, comprising the steps of

1. having and/or introducing a seed bed into the reactor,
2. some or all of the recycling gas acting as the fluidizing gas through the bed in order to maintain the bed in the fluidized state,
3. heating the fluidizing gas with an external heating system,
4. determining the density d and melt index MI of the polyethylene powder to be produced at start-up
5. identifying in the RTSE tables the temperatures corresponding to a RTSE value of 4.4 for the polyethylene powder to be produced at start-up,
6. having and/or building into the reactor the appropriate reactive olefin gas and/or liquid environment, and

7. a final step of introducing into the reactor the active polymerization catalyst specie which instantaneously starts the olefin polymerization process,
3. characterized in that, before the final step of introducing the catalyst into the reactor, the heating step is conducted by controlling the temperature inside the reactor such that
 - a. the temperature is maintained at least 0.5°C below the sintering temperature of the start-up bed, and
 - b. the temperature is maintained at a value equal or higher than the one identified in above step 5 (i.e. the temperature corresponding to a RTSE value of 4.4 for the d and MI values of the polyethylene powder to be produced).

According to a preferred embodiment of the present invention, the heating step of the start-up bed by controlling the temperature inside the reactor is also such that the temperature is maintained at a value equal or lower than the one corresponding to a RTSE value of 4.2 for the d and MI values of the polyethylene powder to be produced.

The densities can be measured according to ASTM-D-792 and defined as in ASTM-D-1248-84. The melt index can be measured according to ASTM-D-1238, condition A (2.16kg).

Figures 1 to 12 represent the RTSE tables covering the polyethylene grades to be produced according to the present invention.

The RTSE value is indicated in the attached tables (figure 1 to 12) which cover polyethylene grades having a density from 915 to 960 and a melt index from 0.5 to 30. To each density/melt index couple corresponds a 4.2 and 4.4 RTSE value and a corresponding temperature as indicated in the tables. For density or melt index values that are falling at the border of operating envelopes (window), the corresponding operating temperature envelope can easily be calculated by making linear interpolations.

For example, in figure 6, for a 940/4.8 density /melt index couple, the temperature at an RTSE of 4.4 is 100.2°C and the temperature at an RTSE of 4.2 is 105.8; thus, when it is decided to produce a 940/4.8 d/MI polyethylene grade, the pre-start-up heating step according to the present invention should be performed at a temperature which is at least equal to 100.2°C (RTSE=4.4) and, preferably, lower than (or equal to) 105.8°C (RTSE=4.2).

For a 940/5.05 d/MI polyethylene grade, the calculation gives

T°C	RTSE=4.4	RTSE=4.2
940/4.8	100.2	105.8
940/5.3	99.5	105.1
→ 940/5.05	(100.2+99.5)/2	(105.8+105.1)/2

i.e., a pre-start-up heating step according to the present invention which should be performed at a temperature which is at least equal to 99.85°C (RTSE=4.4) and, preferably, lower than (or equal to) 105.45°C (RTSE=4.2).

In order to provide the most efficient pre-start-up treatment, it is important that this treatment should last until when the catalyst is introduced. It is also preferred that the heating is performed at least five minutes and preferably over 15 minutes before catalyst injection.

The Applicants have unexpectedly found that this temperature control leads to smooth and improved in all aspects polymerization start-ups.

The essential feature of the present invention lies in said strict control of the reactor inside temperature during pre-start-up.

As can be seen from the attached figures, the said reactor temperatures are unusually high for gas phase operations. In the prior art start-up operations, the temperature inside the reactor remains usually very low before the catalyst is first injected. The particular feature according to the present invention lies in the heating of the reactor before start-up in order to reach the appropriate temperature inside the reactor before catalyst injection and start-up.

Said heating can be done by any appropriate mean, e.g. by using a heat exchanger in the reaction loop. However, it is obvious for the man knowledgeable in the art that the usual cooling water system (that is based on an open loop) will not allow
5 to reach the heating temperatures required according to the present invention. Therefore, according to the present invention, we preferably use a closed loop pressurised water cooling system (using steam) in order to provide reactor operating temperatures before start-up in excess of 100°C.

10 According to a preferred embodiment, the present invention is especially valuable for the polymer grade which requires a heating temperature of at least 95°C, preferably at least 100°C. For example, according to the present invention, this means that the grade to be produced at start-up has (in the attached tables) for a RTSE value of 4.4 a temperature which is at least of 95°C, preferably at least
15 100°C.

Said pre start-up operation may also advantageously be performed before and during the introduction of the start-up bed (charge powder) into the reactor. The charge powder used for the start up of polymerisation or copolymerisation
20 consists of solid particles of an inorganic product, such as silica, alumina, talc or magnesia, or else an organic product such as a polymer or copolymer. In particular the charge powder may be a polyolefin powder preferably of the same nature as that of the polyolefin powder to be produced, so that as soon as the reaction starts up, polyolefin of the desired quality is obtained immediately. Such
25 a charge powder may in particular originate from a previous polymerisation or copolymerisation reaction. In this way one may use as charge powder a powder of a polyethylene, a polypropylene, a copolymer of ethylene with less than 20% by weight of one or more other alpha-olefins comprising, for example, from 3 to 12 carbon atoms, an elastomeric copolymer of ethylene with from 30 to 70% by
30 weight of propylene, a copolymer of ethylene with less than 20% by weight of ethylene or one or more other alpha-olefins comprising from 4 to 12 carbon atoms, or a copolymer of propylene with from 10 to 40% by weight of 1-butene or a mixture of 1-butene and ethylene. Advantageously the charge powder consists of particles having a mean diameter by mass comprised between 200 and 5000
35 microns, and preferably comprised between 500 and 3000 microns. The size of the

charge powder particles is chosen partly as a function of the size of the polyolefin particles to be produced, and partly as a function of the type of polymerisation reactor and conditions of use of this reactor, such as for example the speed of fluidisation which may for example be comprised between 2 to 10 times the minimum speed of fluidisation of the polyolefin particles to be produced.

According to the present invention, the completion of the mandatory heating step is done before the introduction of the active polymerization catalyst specie inside the reactor. It will be apparent for the man skilled in the art that the present invention process can also advantageously be used after a shutdown of the previous polymerization process. Consequently, there might be residual polymerization occurring when proceeding with the heating step according to the present invention. It is thus essential to continue to control the temperature according to the process claimed until the introduction of the catalyst specie into the reactor and the start-up polymerisation.

According to a preferred embodiment of the present invention, the pre-start up procedure also includes a cleaning process (pre start-up operation) characterized in that, prior to the introduction of the catalytic system in the reactor, the reactor is subjected to a cleaning treatment comprising the steps of introducing into the reactor an alkane having from 4 to 8 carbon atoms, circulating said alkane across the reactor under pressure and elevated temperature, depressurizing and purging the reactor.

The Applicants have unexpectedly found that this additional alkane treatment lead to smooth and improved in all aspects polymerization start-ups, as showed in the examples. While not wishing to be bound to this explanation, the Applicants believe that it is the absorption capacity of the alkane which positively impacts on the polymer residues and impurities present on the reactor wall, in the piping and exchangers, so that during the depressurizing/purging steps a high desorption of these residues and impurities occur by mechanical and/or dissolution and/or azeotropic type mechanisms.

The cleaning treatment consists in introducing into the reactor an alkane having from 4 to 8 carbon atoms, circulating said alkane across the reactor under pressure, depressurizing and purging the reactor.

The introduction of the alkane in a fluidised bed and/or with mechanical stirring, is preferably performed in the presence of an inert gas. In particular the treatment may be performed in the presence of nitrogen. It is also preferably performed under airtight conditions in order to avoid any oxygen ingress. It is also preferably performed in the absence of reacting gas like the olefins.

For the purpose of the present description and appended claims, "under pressure" treatment means that the pressure inside the reactor is at least above the atmospheric pressure. The alkane cleaning treatment is preferably carried out under a pressure comprised between 5 and 30 bars. For the purpose of the present description and appended claims, a treatment at an "elevated temperature" means that the treatment is performed at a reactor temperature of at least 40°C, preferably performed at a temperature comprised between 50 and 120°C and more preferably at a temperature comprised between 70 and 110°C. Preferably, when a charge powder is present, the treatment temperature should be below the temperature at which the particles of charge powder begin to soften and form agglomerates.

The alkane is for example, butane, pentane, hexane, heptane or octane. Pentane is preferably used.

The quantity of alkane used according to the invention depends on the state of purity of both the reactor loop and the charge powder. Preferably, the quantity of alkane used for the treatment is such that the alkane partial pressure is comprised between 25 and 95% of the saturated vapor pressure of the said alkane under the treatment conditions (temperature and pressure). More preferably, the quantity of alkane used for the treatment is such that the alkane partial pressure is comprised between 45 and 75% of the saturated vapor pressure of the said alkane under the treatment conditions (temperature and pressure).

In order to provide the most efficient cleaning treatment, it is important that this treatment should last at least five minutes and preferably over 15 minutes.

As already indicated, the cleaning process includes after the alkane circulation under pressure a depressurizing step. Then, the consecutive purge operation(s) is/are performed according to techniques in themselves known, such as successive operations of pressurising and degassing the reactor by means of gases or a mixture of gases as referred to above. They may be carried out under a pressure at least equal to atmospheric pressure, preferably under a pressure comprised between 0.1 and 5 MPa, at a temperature equal to or greater than 0 DEG C., but

less than the temperature at which the charge powder particles begin to soften and form agglomerates, and preferably at a temperature comprised between 40 DEG and 120 DEG C.

- 5 Any appropriate additional cleaning treatment may also be performed. For example, the reactor may additionally be treated with an organoaluminium compound of the formula $AlR_n X_{3-n}$ in which R is an alkyl group comprising from 2 to 12 carbon atoms, X is a hydrogen or halogen atom, or an alcoholate group, and n is a whole number or fraction comprised between 1 and 3. Said
10 organoaluminium additional treatment, if used, is preferably performed after the alkane treatment.

The organoaluminium compound, when used, may be chosen from amongst the trialkylaluminium compounds or hydrides, chlorides or alcoholates of
15 alkylaluminium. Generally it is preferred to use a trialkylaluminium such as triethylaluminium, trisobutylaluminium, tri-n-hexyl-aluminium or tri-n-octyl aluminium. In certain cases, especially with a view to simplifying the process of the invention, the organoaluminium compound may advantageously be of the same nature as that used as co-catalyst associated with the catalyst in the catalyst
20 system.

20 Another additional treatment could be a dehydration treatment, which essentially consists in purge operations. If used, said additional dehydration treatment is advantageously performed before the alkane cleaning treatment of the present invention.

- 25 According to a preferred embodiment of the present invention, the cleaning treatments (purges, organoaluminum compounds and alkanes) are performed before composing the reacting gas phase. Then, contacting the olefins with the charge powder in the presence of the catalytic system may be performed in a manner in itself known, by means of a polymerisation or copolymerisation reactor
30 with a fluidized bed and/or with mechanical stirring. The reactor is fed with a reaction gas mixture consisting of 1 or more (alpha)-olefins and optionally hydrogen and/or one or more inert gases (including additional optional alkanes), under the appropriate conditions of the polymerisation or copolymerisation reaction in the gas phase.

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Surprisingly, it has been observed that when one wishes to attain in an advantageous manner, in a relatively short time, a stable production of polyolefin of the desired quality, it is possible thanks to the process of the invention to perform the initial stage of the polymerisation or copolymerisation in the presence of the catalytic system in a relatively large quantities, without forming agglomerates or fine particles.

The process according to the present invention is particularly suitable for the manufacture of copolymers of ethylene. Preferred alpha-olefins used in combination with ethylene in the process of the present invention are those having from 4 to 8 carbon atoms. The preferred alpha-olefins are but-1-ene, pent-1-ene, hex-1-ene, 4-methylpent-1-ene, oct-1-ene and butadiene, the most preferred comonomer being the hex-1-ene.

When liquid condenses out of the recycle gaseous stream, it can be a condensable monomer, e.g. but-1-ene, hex-1-ene, 4-methylpent-1-ene or octene used as a comonomer, and/or an optional inert condensable liquid, e.g. inert hydrocarbon(s), such as C₄-C₈ alkane(s) or cycloalkane(s), particularly butane, pentane or hexane.

The process is particularly suitable for polymerising olefins at an absolute pressure of between 0.5 and 6 MPa and at a temperature of between 55 and 135°C, preferably 80°C and 120°C.

The polymerisation is preferably carried out continuously in a vertical fluidised bed reactor according to techniques known in themselves and in equipment such as that described in European patent application EP-0 855 411, French Patent No. 2,207,145 or French Patent No. 2,335,526. The process of the invention is particularly well suited to industrial-scale reactors of very large size.

The polymerisation reaction may be carried out in the presence of a catalyst system of the Ziegler-Natta type, consisting of a solid catalyst essentially comprising a compound of a transition metal and of a cocatalyst comprising an

organic compound of a metal (i.e. an organometallic compound, for example an alkylaluminium compound). High-activity catalyst systems have already been known for a number of years and are capable of producing large quantities of polymer in a relatively short time, and thus make it possible to avoid a step of removing catalyst residues from the polymer. These high-activity catalyst systems generally comprise a solid catalyst consisting essentially of atoms of transition metal, of magnesium and of halogen. The process is also suitable for use with Ziegler catalysts supported on silica. The process is also especially suitable for use with metallocene catalysts in view of the particular affinity and reactivity experienced with comonomers and hydrogen. The process can also be advantageously applied with a late transition metal catalyst, i.e. a metal from Groups VIIIb or Ib (Groups 8-11) of the Periodic Table. In particular the metals Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, and Pt are preferred, especially Fe, Co and Ni. The late transition metal complex may comprise bidentate or tridentate ligands, preferably coordinated to the metal through nitrogen atoms. As examples are those complexes disclosed in WO96/23010. Suitable iron and/or cobalt complexes catalysts can also be found in WO98/27124 or in WO99/12981.

It is also possible to use a high-activity catalyst consisting essentially of a chromium oxide activated by a heat treatment and associated with a granular support based on a refractory oxide.

The catalyst may suitably be employed in the form of a prepolymer powder prepared beforehand during a prepolymerisation stage with the aid of a catalyst as described above. The prepolymerisation may be carried out by any suitable process, for example, polymerisation in a liquid hydrocarbon diluent or in the gas phase using a batch process, a semi-continuous process or a continuous process.

According to a preferred embodiment of the present invention, the catalyst is a Ziegler-Natta catalyst (i.e., non-metallocene) containing magnesium and titanium; the magnesium is preferably acting as the support; the catalyst is thus preferably non supported on silica. Preferably, the catalyst is subjected to a prepolymerisation stage. A most preferred catalyst corresponds to the catalysts disclosed in WO9324542.

According to a preferred embodiment of the present invention, the polyethylene has a density comprised between 915 and 960 kg/m³ and a melt index comprised between 0.5 and 30.

5 **CLAIMS**

- 10 1. Process for the polymerisation or copolymerisation in the gas phase of ethylene by bringing the said ethylene into contact, under polymerization or copolymerisation conditions in a reactor in which the start-up bed is fluidised and/or agitated with mechanical stirring, with a catalyst system, which process comprises a pre start-up operation characterized in that, prior to the introduction of the catalytic system in the reactor, it comprises the following steps
 - 15 1. determining the density d and melt index MI of the polyethylene powder to be produced at start-up,
 2. heating the start-up bed by controlling the temperature inside the reactor such that
 - 20 a. the temperature is maintained at least 0.5°C below the sintering temperature of the start-up bed, and
 - b. the temperature is maintained at a value equal or higher than the one corresponding to a RTSE value of 4.4 for the d and MI values of the polyethylene powder to be produced.
- 25 2. Continuous gas fluidized bed process for the polymerization of ethylene monomer and one or more optional alpha-olefins, in a fluidized bed reactor by continuously recycling a gaseous stream comprising at least some of the ethylene through the fluidized bed, comprising the steps of
 - 30 1. having and/or introducing a seed bed into the reactor,
 2. some or all of the recycling gas acting as the fluidizing gas through the bed in order to maintain the bed in the fluidized state,
 3. heating the fluidizing gas with an external heating system,
 4. determining the density d and melt index MI of the polyethylene powder to be produced at start-up

5. identifying in the RTSE tables the temperature corresponding to a RTSE value of 4.4 for the polyethylene powder to be produced at start-up,
6. having and/or building into the reactor the appropriate reactive olefin gas and/or liquid environment, and
- 5 7. a final step of introducing into the reactor the active polymerization catalyst specie which instantaneously starts the olefin polymerization process,

characterized in that, before the final step of introducing the catalyst into the
10 reactor, the heating step is conducted by controlling the temperature inside the reactor such that

- a. the temperature is maintained at least 0.5°C below the sintering temperature of the start-up bed, and
- b. the temperature is maintained at a value equal or higher than the one
15 identified in above step 5 (i.e. the temperature corresponding to a RTSE value of 4.4 for the d and MI values of the polyethylene powder to be produced).

3. Process according to claim 1 or 2 wherein the heating step of the start-up bed
20 by controlling the temperature inside the reactor is also such that the temperature is maintained at a value equal or lower than the one corresponding to a RTSE value of 4.2 for the d and MI values of the polyethylene powder to be produced.

4. Process according to any of the preceding claims wherein the polymer grade to
25 be produced at start-up requires a heating temperature of at least 95°C, preferably at least 100°C according to its corresponding 4.2 RTSE value in the tables.

5 **ABSTRACT****PROCESS FOR THE (CO-)POLYMERISATION OF ETHYLENE IN THE
GAS PHASE**

- 10 The present invention relates to a process for improving the start up of polymerization or copolymerization of ethylene in a gas phase reactor, preferably a fluidised bed gas phase reactor.

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	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 101.5	42 102.4	42 103.2	42 104.0	42 104.7	42 105.5	42 106.2	42 106.9	42 107.6	42 108.3	42 109.0	42 109.7	42 110.4	42 111.1	42 111.8	42 112.5
18.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.2	44 89.9	44 89.8	44 87.8	44 88.3	44 89.0	44 89.7	44 90.4	44 91.1	44 91.7	44 92.4	44 93.1	44 93.8	44 94.5	44 95.2	44 95.9
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 100.8	42 101.6	42 102.4	42 103.2	42 103.9	42 104.6	42 105.3	42 106.0	42 106.7	42 107.4	42 108.1	42 108.8	42 109.5	42 110.2	42 110.9	42 111.6
20.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.8	44 89.3	44 88.1	44 88.8	44 87.8	44 88.3	44 89.0	44 89.7	44 90.4	44 91.1	44 91.8	44 92.5	44 93.2	44 93.9	44 94.6	44 95.3
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 100.1	42 100.9	42 101.7	42 102.5	42 103.2	42 103.9	42 104.6	42 105.3	42 106.0	42 106.7	42 107.4	42 108.1	42 108.8	42 109.5	42 110.2	42 110.9
22.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.8	44 89.7	44 88.4	44 88.2	44 87.8	44 87.7	44 88.4	44 89.1	44 89.8	44 90.5	44 91.2	44 91.9	44 92.6	44 93.3	44 94.0	44 94.7
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 89.8	42 100.5	42 101.1	42 101.9	42 102.6	42 103.3	42 104.0	42 104.7	42 105.4	42 106.1	42 106.8	42 107.5	42 108.2	42 108.9	42 109.6	42 110.3
24.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.3	44 89.1	44 89.8	44 89.7	44 88.4	44 87.1	44 87.8	44 88.5	44 89.2	44 89.9	44 90.6	44 91.3	44 92.0	44 92.7	44 93.4	44 94.1
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 89.8	42 89.7	42 100.5	42 101.2	42 102.0	42 102.8	42 103.5	42 104.2	42 104.9	42 105.6	42 106.3	42 107.0	42 107.7	42 108.4	42 109.1	42 109.8
27.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.8	44 89.4	44 89.2	44 89.0	44 88.7	44 88.4	44 88.1	44 87.8	44 87.5	44 87.2	44 86.9	44 86.6	44 86.3	44 86.0	44 85.7	44 85.4
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 89.2	42 89.0	42 89.9	42 100.6	42 101.3	42 102.1	42 102.8	42 103.5	42 104.2	42 104.9	42 105.6	42 106.3	42 107.0	42 107.7	42 108.4	42 109.1
30.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.0	44 88.9	44 89.8	44 89.4	44 89.1	44 88.8	44 88.5	44 88.2	44 87.9	44 87.6	44 87.3	44 87.0	44 86.7	44 86.4	44 86.1	44 85.8
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 87.8	42 89.4	42 89.2	42 100.0	42 100.7	42 101.5	42 102.2	42 102.9	42 103.6	42 104.3	42 105.0	42 105.7	42 106.4	42 107.1	42 107.8	42 108.5

DENSITY

FIGURE 1

MELT-INDEX

DENSITY

MELT-INDEX

	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960
3,9	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0	44 100.0
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 111.7	42 112.5	42 113.2	42 114.0	42 114.8	42 115.5	42 116.2	42 117.0	42 117.8	42 118.5	42 119.2	42 120.0	42 120.8	42 121.5	42 122.3	42 123.1
4,3	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 106.4	44 106.2	44 107.0	44 107.8	44 108.5	44 109.2	44 110.0	44 110.8	44 111.5	44 112.2	44 113.0	44 113.8	44 114.5	44 115.3	44 116.0	44 116.8
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 111.0	42 111.8	42 112.6	42 113.4	42 114.1	42 114.9	42 115.6	42 116.3	42 117.0	42 117.8	42 118.5	42 119.2	42 120.0	42 120.8	42 121.5	42 122.3
4,8	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 104.8	44 105.5	44 106.2	44 107.0	44 107.8	44 108.5	44 109.2	44 110.0	44 110.8	44 111.5	44 112.2	44 113.0	44 113.8	44 114.5	44 115.3	44 116.0
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 110.5	42 111.1	42 111.8	42 112.6	42 113.4	42 114.1	42 114.9	42 115.6	42 116.3	42 117.0	42 117.8	42 118.5	42 119.2	42 120.0	42 120.8	42 121.5
5,3	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 104.0	44 104.5	44 105.0	44 105.5	44 106.0	44 106.5	44 107.0	44 107.5	44 108.0	44 108.5	44 109.0	44 109.5	44 110.0	44 110.5	44 111.0	44 111.5
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 109.6	42 110.4	42 111.2	42 112.0	42 112.7	42 113.4	42 114.1	42 114.9	42 115.6	42 116.3	42 117.0	42 117.8	42 118.5	42 119.2	42 120.0	42 120.8
5,9	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 103.2	44 104.0	44 104.8	44 105.6	44 106.3	44 107.1	44 107.8	44 108.5	44 109.2	44 110.0	44 110.8	44 111.5	44 112.2	44 113.0	44 113.8	44 114.5
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 108.8	42 109.6	42 110.4	42 111.2	42 111.9	42 112.7	42 113.4	42 114.1	42 114.9	42 115.6	42 116.3	42 117.0	42 117.8	42 118.5	42 119.2	42 120.0
6,5	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 102.5	44 103.2	44 104.0	44 104.8	44 105.6	44 106.3	44 107.1	44 107.8	44 108.5	44 109.2	44 110.0	44 110.8	44 111.5	44 112.2	44 113.0	44 113.8
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 108.1	42 108.9	42 109.7	42 110.5	42 111.2	42 112.0	42 112.7	42 113.4	42 114.1	42 114.9	42 115.6	42 116.3	42 117.0	42 117.8	42 118.5	42 119.2
7,2	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 101.8	44 102.6	44 103.4	44 104.2	44 105.0	44 105.8	44 106.6	44 107.4	44 108.2	44 109.0	44 109.8	44 110.6	44 111.4	44 112.2	44 113.0	44 113.8
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 107.4	42 108.2	42 109.0	42 109.8	42 110.6	42 111.4	42 112.2	42 113.0	42 113.8	42 114.6	42 115.4	42 116.2	42 117.0	42 117.8	42 118.6	42 119.4
8,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 101.0	44 101.8	44 102.6	44 103.4	44 104.2	44 105.0	44 105.8	44 106.6	44 107.4	44 108.2	44 109.0	44 109.8	44 110.6	44 111.4	44 112.2	44 113.0
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 106.6	42 107.4	42 108.2	42 109.0	42 109.8	42 110.6	42 111.4	42 112.2	42 113.0	42 113.8	42 114.6	42 115.4	42 116.2	42 117.0	42 117.8	42 118.6
8,9	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 100.2	44 101.1	44 101.9	44 102.8	44 103.6	44 104.4	44 105.3	44 106.1	44 107.0	44 107.8	44 108.6	44 109.5	44 110.3	44 111.2	44 112.0	44 112.9
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 105.8	42 106.7	42 107.5	42 108.3	42 109.2	42 110.0	42 110.8	42 111.6	42 112.4	42 113.2	42 114.0	42 114.8	42 115.6	42 116.4	42 117.2	42 118.0
9,9	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.5	44 100.3	44 101.1	44 101.9	44 102.7	44 103.5	44 104.3	44 105.1	44 105.9	44 106.7	44 107.5	44 108.3	44 109.1	44 109.9	44 110.7	44 111.5
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 105.1	42 105.9	42 106.7	42 107.5	42 108.3	42 109.1	42 109.9	42 110.7	42 111.5	42 112.3	42 113.1	42 113.9	42 114.7	42 115.5	42 116.3	42 117.1
11,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 89.7	44 89.8	44 89.9	44 90.0	44 90.1	44 90.2	44 90.3	44 90.4	44 90.5	44 90.6	44 90.7	44 90.8	44 90.9	44 91.0	44 91.1	44 91.2
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42 104.3	42 104.1	42 103.9	42 103.7	42 103.5	42 103.3	42 103.1	42 102.9	42 102.7	42 102.5	42 102.3	42 102.1	42 101.9	42 101.7	42 101.5	42 101.3

FIGURE 2

MELT-INDEX

	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
1,4	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 78.6	44 78.0	44 78.5	44 80.9	44 82.4	44 83.8	44 85.2	44 86.5	44 87.9	44 89.3	44 90.6	44 91.9	44 93.2	44 94.6	44 95.8	44 96.9
1,5	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 82.2	42 83.7	42 85.1	42 86.6	42 88.0	42 89.4	42 90.8	42 92.2	42 93.6	42 94.9	42 96.2	42 97.5	42 98.8	42 100.0	42 101.2	42 102.4
1,7	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 78.2	44 77.7	44 78.2	44 80.6	44 82.0	44 83.5	44 84.9	44 86.2	44 87.6	44 89.0	44 90.3	44 91.6	44 92.9	44 94.1	44 95.3	44 96.5
1,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 81.2	42 82.7	42 84.2	42 85.6	42 87.0	42 88.5	42 89.8	42 91.2	42 92.6	42 93.9	42 95.3	42 96.5	42 97.8	42 99.1	42 100.3	42 101.5
2,1	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 74.5	44 74.0	44 74.4	44 76.8	44 78.3	44 79.8	44 81.2	44 82.6	44 84.0	44 85.3	44 86.7	44 88.0	44 89.3	44 90.6	44 91.9	44 93.2
2,3	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 84.1	42 85.6	42 87.0	42 88.5	42 89.8	42 91.2	42 92.6	42 93.9	42 95.3	42 96.6	42 97.9	42 99.2	42 100.5	42 101.8	42 103.1	42 104.4
2,6	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 73.3	44 74.7	44 76.2	44 77.6	44 79.1	44 80.5	44 81.8	44 83.3	44 84.6	44 86.0	44 87.3	44 88.6	44 89.9	44 91.1	44 92.3	44 93.5
2,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 76.2	42 77.7	42 79.1	42 80.5	42 82.0	42 83.4	42 84.8	42 86.2	42 87.6	42 89.0	42 90.4	42 91.8	42 93.1	42 94.5	42 95.9	42 97.2
3,2	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 72.0	44 73.5	44 74.9	44 76.4	44 77.8	44 79.2	44 80.6	44 82.0	44 83.4	44 84.7	44 86.1	44 87.5	44 88.9	44 90.3	44 91.6	44 92.9
3,6	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 77.6	42 79.1	42 80.5	42 82.0	42 83.4	42 84.8	42 86.2	42 87.6	42 89.0	42 90.4	42 91.8	42 93.1	42 94.5	42 95.9	42 97.2	42 98.6
4,0	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 70.8	44 72.3	44 73.8	44 75.2	44 76.6	44 78.0	44 79.4	44 80.8	44 82.2	44 83.6	44 84.9	44 86.3	44 87.7	44 89.0	44 90.4	44 91.8

DENSITY

FIGURE 3

MELT-INDEX.

	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960
0.5	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 110.7	44 110.6	44 110.2	44 110.0	44 109.6	44 109.5	44 120.2	44 120.6	44 121.6	44 122.2	44 122.8	44 123.4	44 124.0	44 124.6	44 125.1	44 125.7
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 110.3	42 122.1	42 122.8	42 123.7	42 124.4	42 125.1	42 125.8	42 126.5	42 127.2	42 127.8	42 128.5	42 129.1	42 129.7	42 130.3	42 130.9	42 131.5
0.6	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 115.1	44 115.0	44 116.7	44 117.5	44 118.3	44 119.0	44 119.7	44 120.4	44 121.1	44 121.7	44 122.3	44 122.9	44 123.5	44 124.1	44 124.6	44 125.2
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 120.9	42 121.6	42 122.4	42 123.1	42 123.8	42 124.5	42 125.3	42 126.0	42 126.7	42 127.3	42 127.9	42 128.6	42 129.1	42 129.7	42 130.3	42 130.9
0.7	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 114.7	44 115.4	44 116.2	44 117.0	44 117.8	44 118.5	44 119.2	44 119.9	44 120.6	44 121.3	44 121.9	44 122.6	44 123.0	44 123.6	44 124.2	44 124.7
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 120.3	42 121.1	42 121.8	42 122.7	42 123.4	42 124.1	42 124.8	42 125.6	42 126.2	42 126.8	42 127.5	42 128.1	42 128.7	42 129.3	42 129.9	42 130.5
0.8	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 114.2	44 115.0	44 115.8	44 116.6	44 117.3	44 118.1	44 118.8	44 119.6	44 120.3	44 121.1	44 121.8	44 122.6	44 123.0	44 123.6	44 124.2	44 124.7
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 119.8	42 120.6	42 121.4	42 122.2	42 123.0	42 123.7	42 124.4	42 125.1	42 125.7	42 126.4	42 127.0	42 127.6	42 128.2	42 128.8	42 129.4	42 129.9
0.9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 113.8	44 114.6	44 115.4	44 116.2	44 117.0	44 117.8	44 118.5	44 119.3	44 120.0	44 120.7	44 121.5	44 122.2	44 122.9	44 123.6	44 124.3	44 124.8
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 119.4	42 120.2	42 121.0	42 121.8	42 122.6	42 123.3	42 124.0	42 124.7	42 125.3	42 126.0	42 126.6	42 127.2	42 127.8	42 128.4	42 129.0	42 129.6
1.0	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 113.4	44 114.2	44 115.0	44 115.7	44 116.5	44 117.2	44 117.9	44 118.6	44 119.3	44 120.0	44 120.7	44 121.4	44 122.1	44 122.8	44 123.5	44 124.2
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 119.0	42 119.8	42 120.6	42 121.4	42 122.1	42 122.8	42 123.5	42 124.2	42 124.9	42 125.5	42 126.2	42 126.8	42 127.4	42 128.0	42 128.6	42 129.2
1.1	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 113.0	44 113.8	44 114.6	44 115.4	44 116.1	44 116.8	44 117.5	44 118.2	44 118.9	44 119.6	44 120.2	44 120.9	44 121.5	44 122.2	44 122.9	44 123.6
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 118.6	42 119.4	42 120.2	42 121.0	42 121.7	42 122.4	42 123.1	42 123.8	42 124.5	42 125.1	42 125.8	42 126.4	42 127.0	42 127.6	42 128.2	42 128.8
1.2	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 112.6	44 113.4	44 114.2	44 115.0	44 115.7	44 116.4	44 117.2	44 117.9	44 118.6	44 119.2	44 119.9	44 120.4	44 121.0	44 121.6	44 122.1	44 122.6
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 118.2	42 119.0	42 119.8	42 120.6	42 121.3	42 122.0	42 122.8	42 123.5	42 124.1	42 124.8	42 125.4	42 126.0	42 126.6	42 127.2	42 127.7	42 128.2
1.3	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 112.2	44 113.0	44 113.8	44 114.6	44 115.4	44 116.1	44 116.8	44 117.5	44 118.2	44 118.9	44 119.4	44 120.0	44 120.6	44 121.2	44 121.7	44 122.2
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 117.8	42 118.7	42 119.5	42 120.2	42 121.0	42 121.7	42 122.4	42 123.1	42 123.8	42 124.4	42 125.0	42 125.6	42 126.2	42 126.8	42 127.3	42 127.8
1.4	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 111.8	44 112.7	44 113.6	44 114.3	44 115.0	44 115.7	44 116.5	44 117.2	44 117.9	44 118.5	44 119.1	44 119.7	44 120.3	44 120.9	44 121.4	44 121.9
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 117.5	42 118.3	42 119.1	42 119.9	42 120.6	42 121.4	42 122.1	42 122.8	42 123.4	42 124.1	42 124.7	42 125.3	42 125.9	42 126.5	42 127.0	42 127.5
1.5	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 111.6	44 112.4	44 113.2	44 113.9	44 114.7	44 115.4	44 116.1	44 116.8	44 117.5	44 118.1	44 118.7	44 119.4	44 120.0	44 120.6	44 121.1	44 121.6
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 117.2	42 118.0	42 118.8	42 119.6	42 120.3	42 121.0	42 121.7	42 122.4	42 123.1	42 123.7	42 124.4	42 125.0	42 125.6	42 126.1	42 126.7	42 127.2

DENSITY

FIGURE 4

MELT-INDEX

[illegible]

FIGURE 5

MELT-INDEX

	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945
3,9	RTSE 44 81.0	RTSE 44 82.1	RTSE 44 83.2	RTSE 44 84.3	RTSE 44 85.4	RTSE 44 86.5	RTSE 44 87.6	RTSE 44 88.7	RTSE 44 89.7	RTSE 44 90.7	RTSE 44 91.7	RTSE 44 92.8	RTSE 44 93.8	RTSE 44 94.8	RTSE 44 95.8	RTSE 44 96.8
4,3	RTSE 44 80.3	RTSE 44 81.5	RTSE 44 82.0	RTSE 44 83.8	RTSE 44 85.6	RTSE 44 87.4	RTSE 44 89.2	RTSE 44 91.0	RTSE 44 92.8	RTSE 44 94.6	RTSE 44 96.4	RTSE 44 98.2	RTSE 44 100.0	RTSE 44 101.8	RTSE 44 103.6	RTSE 44 105.4
4,8	RTSE 44 80.6	RTSE 44 81.7	RTSE 44 82.9	RTSE 44 84.1	RTSE 44 85.3	RTSE 44 86.5	RTSE 44 87.7	RTSE 44 88.9	RTSE 44 90.1	RTSE 44 91.3	RTSE 44 92.5	RTSE 44 93.7	RTSE 44 94.9	RTSE 44 96.1	RTSE 44 97.3	RTSE 44 98.5
5,3	RTSE 44 80.9	RTSE 44 82.1	RTSE 44 83.3	RTSE 44 84.5	RTSE 44 85.7	RTSE 44 86.9	RTSE 44 88.1	RTSE 44 89.3	RTSE 44 90.5	RTSE 44 91.7	RTSE 44 92.9	RTSE 44 94.1	RTSE 44 95.3	RTSE 44 96.5	RTSE 44 97.7	RTSE 44 98.9
5,9	RTSE 44 81.2	RTSE 44 82.4	RTSE 44 83.6	RTSE 44 84.8	RTSE 44 86.0	RTSE 44 87.2	RTSE 44 88.4	RTSE 44 89.6	RTSE 44 90.8	RTSE 44 92.0	RTSE 44 93.2	RTSE 44 94.4	RTSE 44 95.6	RTSE 44 96.8	RTSE 44 98.0	RTSE 44 99.2
6,5	RTSE 44 81.5	RTSE 44 82.7	RTSE 44 83.9	RTSE 44 85.1	RTSE 44 86.3	RTSE 44 87.5	RTSE 44 88.7	RTSE 44 89.9	RTSE 44 91.1	RTSE 44 92.3	RTSE 44 93.5	RTSE 44 94.7	RTSE 44 95.9	RTSE 44 97.1	RTSE 44 98.3	RTSE 44 99.5
7,2	RTSE 44 81.8	RTSE 44 83.0	RTSE 44 84.2	RTSE 44 85.4	RTSE 44 86.6	RTSE 44 87.8	RTSE 44 89.0	RTSE 44 90.2	RTSE 44 91.4	RTSE 44 92.6	RTSE 44 93.8	RTSE 44 95.0	RTSE 44 96.2	RTSE 44 97.4	RTSE 44 98.6	RTSE 44 99.8
8,0	RTSE 44 82.1	RTSE 44 83.3	RTSE 44 84.5	RTSE 44 85.7	RTSE 44 86.9	RTSE 44 88.1	RTSE 44 89.3	RTSE 44 90.5	RTSE 44 91.7	RTSE 44 92.9	RTSE 44 94.1	RTSE 44 95.3	RTSE 44 96.5	RTSE 44 97.7	RTSE 44 98.9	RTSE 44 100.1
8,9	RTSE 44 82.4	RTSE 44 83.6	RTSE 44 84.8	RTSE 44 86.0	RTSE 44 87.2	RTSE 44 88.4	RTSE 44 89.6	RTSE 44 90.8	RTSE 44 92.0	RTSE 44 93.2	RTSE 44 94.4	RTSE 44 95.6	RTSE 44 96.8	RTSE 44 98.0	RTSE 44 99.2	RTSE 44 100.4
9,9	RTSE 44 82.7	RTSE 44 83.9	RTSE 44 85.1	RTSE 44 86.3	RTSE 44 87.5	RTSE 44 88.7	RTSE 44 89.9	RTSE 44 91.1	RTSE 44 92.3	RTSE 44 93.5	RTSE 44 94.7	RTSE 44 95.9	RTSE 44 97.1	RTSE 44 98.3	RTSE 44 99.5	RTSE 44 100.7
11,0	RTSE 44 83.0	RTSE 44 84.2	RTSE 44 85.4	RTSE 44 86.6	RTSE 44 87.8	RTSE 44 89.0	RTSE 44 90.2	RTSE 44 91.4	RTSE 44 92.6	RTSE 44 93.8	RTSE 44 95.0	RTSE 44 96.2	RTSE 44 97.4	RTSE 44 98.6	RTSE 44 99.8	RTSE 44 101.0

DENSITY

FIGURE 6

MELT-INDEX

	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945
1,4	RTSE T 44 88.8	RTSE T 44 89.0	RTSE T 44 89.1	RTSE T 44 100.3	RTSE T 44 101.4	RTSE T 44 102.5	RTSE T 44 103.5	RTSE T 44 104.5	RTSE T 44 105.5	RTSE T 44 107.5	RTSE T 44 108.4	RTSE T 44 109.3	RTSE T 44 110.2	RTSE T 44 111.1	RTSE T 44 111.9	RTSE T 44 112.8
1,5	RTSE T 42 102.4	RTSE T 42 103.5	RTSE T 42 104.6	RTSE T 42 105.6	RTSE T 42 107.0	RTSE T 42 108.1	RTSE T 42 109.1	RTSE T 42 110.1	RTSE T 42 111.2	RTSE T 42 112.1	RTSE T 42 113.1	RTSE T 42 114.0	RTSE T 42 115.0	RTSE T 42 115.9	RTSE T 42 116.7	RTSE T 42 117.5
1,7	RTSE T 44 88.8	RTSE T 44 87.0	RTSE T 44 88.2	RTSE T 44 89.3	RTSE T 44 100.4	RTSE T 44 101.5	RTSE T 44 102.5	RTSE T 44 103.5	RTSE T 44 104.5	RTSE T 44 105.5	RTSE T 44 106.5	RTSE T 44 107.4	RTSE T 44 108.3	RTSE T 44 109.2	RTSE T 44 110.1	RTSE T 44 110.9
1,9	RTSE T 44 88.8	RTSE T 44 89.5	RTSE T 44 87.8	RTSE T 44 89.7	RTSE T 44 89.8	RTSE T 44 100.9	RTSE T 44 102.0	RTSE T 44 103.0	RTSE T 44 104.0	RTSE T 44 105.0	RTSE T 44 105.9	RTSE T 44 106.8	RTSE T 44 107.8	RTSE T 44 108.7	RTSE T 44 109.5	RTSE T 44 110.4
2,1	RTSE T 44 84.7	RTSE T 44 85.0	RTSE T 44 87.1	RTSE T 44 88.2	RTSE T 44 89.3	RTSE T 44 100.4	RTSE T 44 101.4	RTSE T 44 102.4	RTSE T 44 103.4	RTSE T 44 104.4	RTSE T 44 105.4	RTSE T 44 106.3	RTSE T 44 107.2	RTSE T 44 108.1	RTSE T 44 109.0	RTSE T 44 109.8
2,3	RTSE T 44 84.2	RTSE T 44 84.4	RTSE T 44 86.6	RTSE T 44 87.7	RTSE T 44 88.6	RTSE T 44 89.6	RTSE T 44 100.6	RTSE T 44 101.6	RTSE T 44 102.6	RTSE T 44 103.6	RTSE T 44 104.6	RTSE T 44 105.6	RTSE T 44 106.7	RTSE T 44 107.6	RTSE T 44 108.5	RTSE T 44 109.3
2,6	RTSE T 42 88.1	RTSE T 42 100.3	RTSE T 42 101.8	RTSE T 42 102.8	RTSE T 42 103.7	RTSE T 42 104.8	RTSE T 42 105.8	RTSE T 42 106.8	RTSE T 42 107.8	RTSE T 42 108.8	RTSE T 42 109.8	RTSE T 42 110.7	RTSE T 42 111.6	RTSE T 42 112.5	RTSE T 42 113.4	RTSE T 42 114.2
2,9	RTSE T 44 82.8	RTSE T 44 84.0	RTSE T 44 85.2	RTSE T 44 86.3	RTSE T 44 87.4	RTSE T 44 88.5	RTSE T 44 89.5	RTSE T 44 100.6	RTSE T 44 101.6	RTSE T 44 102.6	RTSE T 44 103.5	RTSE T 44 104.4	RTSE T 44 105.3	RTSE T 44 106.2	RTSE T 44 107.1	RTSE T 44 107.9
3,2	RTSE T 44 82.2	RTSE T 44 83.4	RTSE T 44 84.5	RTSE T 44 85.7	RTSE T 44 86.8	RTSE T 44 87.9	RTSE T 44 88.9	RTSE T 44 89.9	RTSE T 44 101.0	RTSE T 44 101.9	RTSE T 44 102.9	RTSE T 44 103.8	RTSE T 44 104.7	RTSE T 44 105.6	RTSE T 44 106.5	RTSE T 44 107.3
3,6	RTSE T 42 87.1	RTSE T 42 88.3	RTSE T 42 89.4	RTSE T 42 100.2	RTSE T 42 101.2	RTSE T 42 102.2	RTSE T 42 103.2	RTSE T 42 104.2	RTSE T 42 105.2	RTSE T 42 106.2	RTSE T 42 107.2	RTSE T 42 108.2	RTSE T 42 109.2	RTSE T 42 110.2	RTSE T 42 111.2	RTSE T 42 112.2
4,0	RTSE T 44 80.8	RTSE T 44 82.0	RTSE T 44 83.1	RTSE T 44 84.2	RTSE T 44 85.4	RTSE T 44 86.4	RTSE T 44 87.5	RTSE T 44 88.5	RTSE T 44 89.5	RTSE T 44 100.5	RTSE T 44 101.4	RTSE T 44 102.4	RTSE T 44 103.3	RTSE T 44 104.2	RTSE T 44 105.0	RTSE T 44 105.8

DENSITY

FIGURE 7

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[illegible]

FIGURE 8

MELT-INDEX

	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
11,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	634	44 649	44 663	44 677	44 692	44 706	44 720	44 734	44 747	44 761	44 774	44 787	44 800	44 812	44 824
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	800	42 786	42 779	42 764	42 748	42 732	42 718	42 700	42 683	42 672	42 660	42 647	42 634	42 620	42 607
12,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	627	44 643	44 657	44 671	44 685	44 700	44 714	44 727	44 741	44 754	44 768	44 782	44 795	44 809	44 822
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	683	42 669	42 715	42 727	42 742	42 759	42 770	42 786	42 797	42 811	42 824	42 837	42 849	42 862	42 874
13,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	821	44 836	44 851	44 865	44 880	44 894	44 908	44 922	44 935	44 949	44 962	44 975	44 988	44 1000	44 1012
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	678	42 692	42 707	42 721	42 730	42 739	42 744	42 749	42 753	42 757	42 761	42 765	42 769	42 773	42 777
14,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	616	44 631	44 645	44 660	44 674	44 688	44 702	44 716	44 730	44 743	44 756	44 769	44 782	44 794	44 807
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	672	42 687	42 702	42 716	42 730	42 745	42 759	42 772	42 789	42 799	42 812	42 825	42 838	42 851	42 863
16,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	607	44 621	44 636	44 650	44 665	44 679	44 693	44 707	44 720	44 734	44 747	44 760	44 773	44 785	44 797
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	692	42 678	42 692	42 707	42 721	42 735	42 749	42 762	42 777	42 790	42 803	42 816	42 829	42 841	42 853
18,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	696	44 713	44 728	44 742	44 757	44 771	44 785	44 799	44 812	44 826	44 839	44 852	44 865	44 877	44 890
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	663	42 669	42 684	42 698	42 712	42 727	42 741	42 755	42 769	42 782	42 796	42 809	42 821	42 833	42 845
20,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	641	44 656	44 671	44 685	44 699	44 713	44 727	44 741	44 755	44 769	44 782	44 795	44 807	44 819	44 831
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	648	42 662	42 677	42 691	42 706	42 720	42 734	42 748	42 761	42 775	42 788	42 801	42 813	42 826	42 839
22,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	666	44 680	44 694	44 708	44 723	44 737	44 751	44 765	44 779	44 792	44 806	44 819	44 832	44 845	44 858
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	641	42 656	42 671	42 685	42 699	42 714	42 728	42 741	42 756	42 769	42 782	42 794	42 807	42 820	42 832
24,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	660	44 674	44 689	44 703	44 718	44 732	44 746	44 760	44 774	44 788	44 802	44 816	44 830	44 844	44 857
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	636	42 651	42 665	42 680	42 694	42 708	42 722	42 736	42 750	42 764	42 778	42 792	42 806	42 820	42 834
27,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	672	44 687	44 692	44 697	44 701	44 705	44 709	44 713	44 717	44 721	44 725	44 729	44 733	44 737	44 741
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	629	42 644	42 649	42 653	42 657	42 661	42 665	42 669	42 673	42 677	42 681	42 685	42 689	42 693	42 697
30,0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44	667	44 681	44 696	44 711	44 725	44 739	44 753	44 767	44 781	44 795	44 809	44 823	44 837	44 851	44 865
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	42	623	42 638	42 653	42 667	42 681	42 695	42 709	42 723	42 737	42 750	42 764	42 778	42 792	42 806	42 820

FIGURE 9

MELT-INDEX

	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
3,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 707	44 722	44 730	44 731	44 735	44 719	44 733	44 802	44 821	44 834	44 847	44 850	44 873	44 885	44 898	44 910
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 703	42 718	42 733	42 807	42 821	42 836	42 850	42 863	42 877	42 890	42 904	42 918	42 930	42 943	42 954	42 968
4,3	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 701	44 715	44 730	44 744	44 758	44 773	44 787	44 801	44 814	44 828	44 841	44 854	44 868	44 879	44 891	44 903
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 707	42 721	42 736	42 801	42 815	42 829	42 843	42 857	42 870	42 884	42 897	42 910	42 923	42 935	42 947	42 959
4,8	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 693	44 708	44 722	44 737	44 751	44 765	44 779	44 793	44 807	44 820	44 833	44 846	44 859	44 871	44 884	44 896
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 719	42 734	42 749	42 763	42 778	42 792	42 806	42 820	42 834	42 847	42 860	42 873	42 886	42 899	42 912	42 925
5,3	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 689	44 701	44 715	44 730	44 744	44 759	44 773	44 786	44 800	44 813	44 827	44 840	44 853	44 865	44 877	44 889
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 742	42 757	42 772	42 786	42 801	42 815	42 829	42 843	42 856	42 870	42 883	42 896	42 909	42 921	42 934	42 946
5,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 678	44 693	44 706	44 723	44 737	44 751	44 765	44 779	44 792	44 806	44 819	44 832	44 845	44 857	44 869	44 881
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 735	42 750	42 764	42 778	42 793	42 807	42 821	42 835	42 849	42 862	42 875	42 888	42 901	42 913	42 926	42 938
6,5	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 672	44 687	44 701	44 716	44 730	44 744	44 758	44 772	44 786	44 799	44 813	44 825	44 839	44 850	44 862	44 874
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 728	42 743	42 757	42 772	42 786	42 800	42 814	42 828	42 842	42 855	42 868	42 881	42 894	42 906	42 918	42 931
7,2	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 665	44 679	44 694	44 708	44 723	44 737	44 751	44 765	44 778	44 792	44 806	44 819	44 830	44 843	44 855	44 867
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 721	42 735	42 750	42 764	42 778	42 793	42 807	42 821	42 834	42 848	42 861	42 874	42 887	42 899	42 911	42 923
8,0	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 657	44 672	44 686	44 701	44 715	44 729	44 743	44 757	44 771	44 784	44 797	44 810	44 823	44 835	44 847	44 859
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 713	42 728	42 742	42 757	42 771	42 785	42 799	42 813	42 827	42 840	42 853	42 866	42 879	42 891	42 904	42 916
8,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 649	44 664	44 678	44 693	44 707	44 721	44 735	44 748	44 762	44 775	44 789	44 802	44 815	44 827	44 840	44 852
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 705	42 720	42 735	42 749	42 763	42 778	42 792	42 806	42 819	42 832	42 846	42 859	42 871	42 884	42 896	42 908
9,9	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 641	44 656	44 671	44 685	44 699	44 714	44 728	44 741	44 755	44 769	44 783	44 794	44 807	44 820	44 832	44 844
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 699	42 712	42 727	42 741	42 756	42 770	42 784	42 798	42 811	42 825	42 839	42 851	42 863	42 876	42 889	42 900
11,0	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	44 634	44 648	44 663	44 677	44 692	44 706	44 720	44 734	44 747	44 761	44 774	44 787	44 800	44 812	44 824	44 836
	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T	RISE T
	42 690	42 705	42 719	42 734	42 748	42 762	42 776	42 790	42 803	42 817	42 830	42 843	42 856	42 869	42 880	42 892

FIGURE 10

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	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
1,4	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 789	44 789	44 785	44 809	44 824	44 838	44 852	44 866	44 879	44 893	44 906	44 919	44 932	44 946	44 959	44 972
1,5	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 782	44 717	44 782	44 806	44 820	44 835	44 848	44 862	44 876	44 890	44 903	44 916	44 928	44 941	44 953	44 965
1,7	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 786	44 771	44 795	44 800	44 814	44 828	44 842	44 856	44 870	44 884	44 898	44 912	44 924	44 936	44 948	44 960
1,9	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 780	44 789	44 780	44 784	44 800	44 823	44 847	44 860	44 874	44 872	44 881	44 893	44 914	44 929	44 936	44 947
2,1	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 745	44 780	44 774	44 789	44 803	44 817	44 831	44 845	44 859	44 872	44 885	44 898	44 911	44 923	44 935	44 947
2,3	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 740	44 784	44 780	44 783	44 799	44 812	44 826	44 840	44 853	44 867	44 880	44 893	44 906	44 919	44 932	44 945
2,6	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 733	44 747	44 762	44 776	44 791	44 805	44 819	44 833	44 847	44 860	44 873	44 886	44 899	44 911	44 923	44 935
2,9	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 726	44 741	44 756	44 770	44 784	44 798	44 812	44 826	44 840	44 853	44 867	44 880	44 893	44 906	44 919	44 932
3,2	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 720	44 735	44 749	44 764	44 778	44 792	44 806	44 820	44 834	44 847	44 860	44 873	44 886	44 899	44 912	44 925
3,6	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 712	44 727	44 742	44 756	44 770	44 785	44 799	44 812	44 826	44 840	44 853	44 867	44 880	44 893	44 906	44 919
4,0	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T	PTSE T
	44 709	44 720	44 733	44 746	44 759	44 772	44 785	44 798	44 811	44 824	44 837	44 850	44 863	44 876	44 889	44 902

FIGURE 11

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DENSITY																
	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930
0.5	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 80.3	44 81.2	44 82.3	44 84.7	44 86.1	44 87.0	44 88.0	44 89.2	44 91.7	44 93.0	44 94.4	44 96.0	44 98.0	44 99.2	44 99.4	44 100.0
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
0.6	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 79.9	44 81.2	44 82.7	44 84.2	44 85.6	44 87.0	44 88.4	44 89.8	44 91.2	44 92.5	44 93.8	44 95.1	44 96.4	44 97.7	44 99.0	44 100.1
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
0.7	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 79.3	44 80.8	44 82.3	44 83.7	44 85.1	44 86.5	44 88.0	44 89.0	44 90.3	44 91.7	44 93.1	44 94.7	44 96.1	44 97.2	44 98.4	44 99.9
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
0.8	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 79.9	44 80.3	44 81.8	44 83.3	44 84.7	44 86.1	44 87.5	44 88.9	44 90.2	44 91.6	44 92.9	44 94.2	44 95.5	44 96.7	44 97.9	44 99.1
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
0.9	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 79.4	44 79.8	44 81.4	44 82.8	44 84.3	44 85.7	44 87.1	44 88.5	44 89.8	44 91.2	44 92.5	44 93.8	44 95.1	44 96.4	44 97.7	44 98.7
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.0	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 79.0	44 79.5	44 81.0	44 82.4	44 83.8	44 85.3	44 86.7	44 88.0	44 89.4	44 90.7	44 92.1	44 93.4	44 94.8	44 96.1	44 97.4	44 98.3
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.1	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 77.6	44 78.1	44 80.6	44 82.0	44 83.5	44 84.9	44 86.3	44 87.7	44 89.0	44 90.3	44 91.7	44 93.0	44 94.2	44 95.5	44 96.7	44 97.9
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.2	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 77.3	44 78.7	44 80.2	44 81.6	44 83.1	44 84.5	44 85.9	44 87.3	44 88.6	44 90.0	44 91.3	44 92.6	44 93.9	44 95.1	44 96.3	44 97.5
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.3	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 76.9	44 78.4	44 79.8	44 81.2	44 82.7	44 84.1	44 85.6	44 86.9	44 88.3	44 89.6	44 90.9	44 92.2	44 93.5	44 94.7	44 96.0	44 97.2
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.4	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 76.6	44 78.0	44 79.5	44 80.9	44 82.4	44 83.9	44 85.2	44 86.6	44 87.9	44 89.3	44 90.6	44 91.9	44 93.2	44 94.4	44 95.6	44 96.8
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
1.5	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T
	44 76.2	44 77.7	44 79.2	44 80.6	44 82.0	44 83.4	44 84.8	44 86.2	44 87.5	44 88.9	44 90.3	44 91.6	44 92.8	44 94.1	44 95.3	44 96.5
	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T	RTSE T

FIGURE 12

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